

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A substrate holder for supporting a substrate, comprising:

a supporting surface;

a cooling component having a plurality of cooling channels configured to receive a cooling fluid;

a heating component positioned adjacent to the supporting surface and between the supporting surface and the cooling component;

a fluid gap positioned between the cooling component and the heating component such that the fluid gap is interposed between the plurality of cooling channels of the cooling component and heating component, the fluid gap configured to receive a fluid to vary the thermal conductance between the cooling component and the heating component; and

a brazing material disposed between the cooling component and the heating component, the brazing material disposed adjacent to the fluid gap.

Claim 2 (Original): The substrate holder according to claim 1, wherein the heating component comprises a body portion and an embedded heater disposed in the body portion.

Claim 3 (Original): The substrate holder according to claim 2, wherein the body portion comprises an aluminum alloy, and the embedded heater is cast in the aluminum alloy.

Claim 4 (Original): The substrate holder according to claim 1, wherein the cooling component comprises an upper cap and a lower cap.

Claim 5 (Currently Amended): The substrate holder according to claim 4, wherein the upper cap comprises [[a]] the plurality of channels configured to receive a cooling fluid.

Claim 6 (Original): The substrate holder according to claim 5, wherein the lower cap comprises a plate having a flat top surface positioned adjacent to the upper cap.

Claim 7 (Original): The substrate holder according to claim 6, further comprising: a second brazing material positioned between the upper cap and the lower cap.

Claim 8 (Original): The substrate holder according to claim 1, further comprising: a mechanical connection positioned between the supporting surface and the heating component.

Claim 9 (Original): The substrate holder according to claim 8, wherein the mechanical connection comprises an adhesive.

Claim 10 (Original): The substrate holder according to claim 1, wherein the fluid gap comprises at least one fluid gap groove in at least one of the heating component and the cooling component.

Claim 11 (Original): The substrate holder according to claim 10, wherein the fluid gap groove is disposed in the cooling component.

Claim 12 (Original): The substrate holder according to claim 10, wherein the fluid gap groove is disposed in the heating component.

Claim 13 (Original): The substrate holder according to claim 1, further comprising:
at least one isolating groove positioned between the cooling component and the
heating component, the isolating groove configured to prevent flow of the brazing material
into the fluid gap.

Claim 14 (Original): The substrate holder according to claim 13, wherein at least a
portion of the isolating groove is disposed in the cooling component.

Claim 15 (Original): The substrate holder according to claim 13, wherein at least a
portion of the isolating groove is disposed in the heating component.

Claim 16 (Original): The substrate holder according to claim 15, wherein at least a
portion of the isolating groove is disposed in the cooling component.

Claim 17 (Original): The substrate holder according to claim 13, wherein at least one
isolating groove comprises a plurality of isolating grooves.

Claim 18 (Original): The substrate holder according to claim 17, wherein the
plurality of isolating grooves are concentric.

Claim 19 (Original): The substrate holder according to claim 1, further comprising:
first and second isolating groove positioned between the heating component and the
cooling component and on opposite sides of the fluid gap, the isolating grooves configured to
prevent flow of the brazing material into the fluid gap.

Claim 20 (Original): The substrate holder according to claim 18, wherein the isolating grooves are disposed in at least one of the heating component and the cooling component.

Claim 21 (Original): The substrate holder according to claim 19, wherein the heating component and the cooling component comprise aluminum alloys.

Claim 22 (Original): The substrate holder according to claim 19, wherein the heating component and the cooling component comprise a same aluminum alloy.

Claim 23 (Original): The substrate holder according to claim 21, wherein the heating component comprises a body portion and an embedded heater, the embedded heater cast into the body portion.

Claim 24 (Original): The substrate holder according to claim 22, wherein the cooling component comprises an upper cap and a lower cap, the heating component positioned between the supporting surface and the upper cap.

Claim 25 (Original): The substrate holder according to claim 24, wherein the upper cap comprises a same aluminum alloy as the heating component.

Claim 26 (Currently Amended): A substrate holder for supporting a substrate, comprising:

a supporting surface;

a cooling component having a plurality of cooling channels configured to receive a cooling fluid;

a heating component positioned adjacent to the supporting surface and between the supporting surface and the cooling component;

a fluid gap positioned between the cooling component and the heating component such that the fluid gap is interposed between the plurality of cooling channels of the cooling component and heating component, the fluid gap configured to receive a fluid to vary the thermal conductance between the cooling component and the heating component;

a brazing material disposed between the cooling component and the heating component, the brazing material disposed adjacent to the fluid gap; and means for preventing flow of the brazing material into the contact zone.

Claim 27 (Original): The substrate holder according to claim 26, wherein the means for preventing flow comprises a groove.

Claim 28 (Original): The substrate holder according to claim 27, wherein the groove is disposed in at least one of the heating component and the cooling component.

Claim 29 (Original): The substrate holder according to claim 28, wherein at least a portion of the groove is disposed in the cooling component.

Claim 30 (Original): The substrate holder according to claim 28, wherein at least a portion of the groove is disposed in the heating component.

Claim 31 (Original): The substrate holder according to claim 30, wherein at least a portion of the groove is disposed in the cooling component.

Claim 32 (Withdrawn): A method of manufacturing a substrate holder including a heating component and a cooling component, comprising:

providing a fluid gap configured to receive a fluid to vary thermal conductance between the heating component and the cooling component; and
inserting a brazing material between the heating component and the cooling component adjacent to the fluid gap.

Claim 33 (Withdrawn): The method according to claim 32, further comprising:
brazing the heating component, the cooling component, with the brazing material, to form the substrate holder.

Claim 34 (Withdrawn): The method according to claim 33, further comprising:
disposing a groove between the heating component and the cooling component, the groove preventing flow of the brazing material into the fluid gap.

Claim 35 (Withdrawn): The method according to claim 32, further comprising:
casting an embedded heater in a body portion to form the heating component.

Claim 36 (Withdrawn): The method according to claim 35, wherein the body portion comprises an aluminum alloy, and the embedded heater is cast in the aluminum alloy.

Claim 37 (Withdrawn): The method according to claim 32, further comprising:

connecting an upper cap with a lower cap to form the cooling component.

Claim 38 (Withdrawn): The method according to claim 37, wherein the upper cap comprises a plurality of channels configured to receive a cooling fluid.

Claim 39 (Withdrawn): The method according to claim 37, wherein the lower cap comprises a plate having a flat top surface positioned adjacent to the upper cap.

Claim 40 (Withdrawn): The method according to claim 39, further comprising: brazing the upper cap to the lower cap.

Claim 41 (Withdrawn): The method according to claim 32, further comprising: mechanically connecting a supporting surface to the heating component.

Claim 42 (Withdrawn): The method according to claim 41, wherein the mechanical connection comprises an adhesive.

Claim 43 (Withdrawn): The method according to claim 32, wherein the heating component and the cooling component comprise an aluminum alloy.

Claim 44 (Withdrawn): The method according to claim 32, wherein the heating component and the cooling component comprise a same aluminum alloy.

Claim 45 (Original): A substrate holder for supporting a substrate, comprising:
a supporting surface;

means for cooling the supporting surface;

means for heating the supporting surface positioned adjacent to the supporting surface and between the supporting surface and the means for cooling;

means for receiving a fluid to vary thermal conductance between the means for cooling and the means for heating, the means for receiving a fluid being positioned between the means for cooling and the means for heating; and

means for connecting the means for cooling and the means for heating.

Claim 46 (Original): The substrate holder according to claim 45, wherein the means for heating comprises at least one of a thermoelectric device and a channel configured to flow at least one of elevated temperature fluorinated dielectric liquid, water, and steam.

Claim 47 (Original): The substrate holder according to claim 45, wherein the means for cooling comprises at least one thermoelectric device.